RTCA/SC-186

FAA Recommendations on Work Plans, Priorities and Schedule

Federal Aviation Administration

Presented to:

RTCA/SC-186

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Outline

- **Background and purpose**
- **Summary of recommendations**
- **FAA objectives and rationale**
- **Discussion**
- **Next steps**

Background & Purpose

- **FAA accepted an action at the June 16, 2006 Plenary to provide guidance on the Special Committee's work plan, products and schedule**
  - Better integration with the FAA's objectives for ADS-B
  - Letter provided to RTCA/SC-186 leadership on July 18, 2006.
- **Summarize recommendations and rationale**
- **Generate discussion**
- **Formalize the direction to the special committee working groups by the plenary**

Summary of Recommendations

1. Development of an Aircraft Surveillance Applications Minimum Operational Performance Standard (ASA MOPS)

2. Development of a Ground Surveillance Applications Minimum Aviation System Performance Standard (GSA MASPS)

3. Revision to RTCA/DO-286A, Minimum Aviation System Performance Standard for Traffic Information Service – Broadcast (TIS-B)

4. Institute process to evaluate and formally document acceptance of additional applications into the ADS-B application MASPS (ASA and GSA) as the technology matures and additional capabilities/applications are proposed

5. Institute impact assessment process to evaluate and document the impact of newly developed standards on existing standards to ensure traceability and aid in document change control

ASA MOPS

- **Airborne Surveillance and Separation Assurance Processing (ASSAP)**
- **Cockpit Display of Traffic Information (CDTI)**
- **Supports airborne applications and includes provisions for receipt, processing and display of traffic information from both airborne ADS-B broadcasts and Traffic Information Service-Broadcast (TIS-B) broadcasts for the following initial airborne applications:**
  - Enhanced Visual Acquisition
  - Enhanced Visual Approaches
  - Final Approach and Runway Occupancy Awareness
  - Airport Surface Situational Awareness
  - Conflict Detection
- **Publish no later than March 14, 2008.**

Rationale for ASA MOPS

- **Provides the basis for Technical Standard Order(s) for traffic information processing and CDTI displays**

- **Supports the FAA's National Program Office objectives of having equipment standards completed to provide equipage incentives for ADS-B airborne applications**

GSA MASPS

- **Describe ADS-B Air to Ground applications and associated MASPS level safety and performance requirements to support the following Ground Surveillance Applications:**

  – ADS-B for use in Air Traffic Control (ATC) surveillance and separation services in a mixed ADS-B and ground surveillance radar environment

  – Operator fleet monitoring & management

  – Surface vehicle movement

  – ATC ground surveillance for closely spaced parallel runway operations (Precision Runway Monitoring (PRM))

- **Publish no later than January 31, 2008**

Rationale for GSA MASPS

- **Provides clear requirements traceability from high-level operational, safety and performance requirements to airborne equipment MOPS-TSOs.**

- **GSA MASPS should serve as an independent SC-186 standard for specific recommendations to the FAA from RTCA as the United States Federal Advisory Committee**
  - Leverage work developed under the ADS-B Requirements Focus Group (RFG)

- **ATC surveillance and separation services should include performance requirements to support, at a minimum, existing ATC separation minima provided by en-route and terminal surveillance radar in the United States National Airspace System**
  - Required surveillance back-up requirements (including airborne position sensor backup),
  - Potential reduced separation minima in various environments that may be feasible through improved surveillance capability provided by ADS-B.

TIS-B MASPS Revision

- Traffic Information Services-Broadcast and Automatic Dependent Surveillance Re-broadcast (ADS-R) are currently commingled in DO-286A

- Specifically define and segregate ADS-R

- Provide substantiation for the safety and performance requirements of ADS-R distinct from TIS-B

- Whether ADS-R and TIS-B are published in separate MASPS or combined in a single MASPS is at the discretion of SC-186
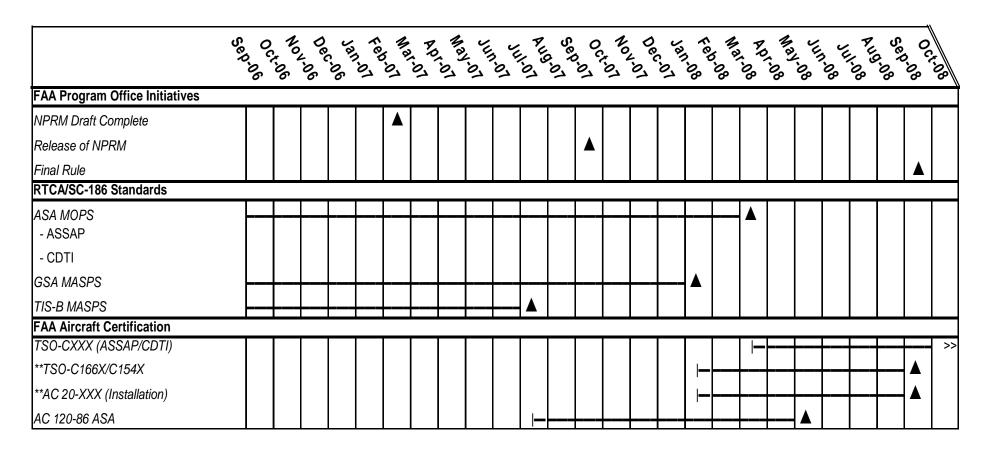
- Publish no later than July 2007

Acceptance of Applications

- **ADS-B applications should be properly vetted and accepted prior to inclusion into applicable MASPS (ASA & GSA) documents**

- **Special Committee 186 should develop a process to evaluate and document acceptance of additional applications into the ADS-B application MASPS**

- **Ensures that applications are consistent with the FAA's ADS-B National Program and aligned with the priorities of the FAA**

Impact Assessments

- **The nature of ADS-B evolutionary process may result in newly developed standards affecting existing standards (e.g. TQL, ACL)**

- **The impact of requirements and concepts introduced in new standards must be evaluated**
    - Identify/document any required changes to existing standards
    - Describe scope/extent of those changes

- **SC-186 should perform an impact assessment after the completion of each new standard to evaluate and document the impact on existing standards**

Schedule

	Sep-06	Oct-06	Nov-06	Dec-06	Jan-07	Feb-07	Mar-07	Apr-07	May-07	Jun-07	Jul-07	Aug-07	Sep-07	Oct-07	Nov-07	Dec-07	Jan-08	Feb-08	Mar-08	Apr-08	May-08	Jun-08	Jul-08	Aug-08	Sep-08	Oct-08
FAA Program Office Initiatives																										
NPRM Draft Complete							▲																			
Release of NPRM														▲												
Final Rule																									▲	
RTCA/SC-186 Standards																										
ASA MOPS																			▲							
* - ASSAP*																										
* - CDTI*																										
GSA MASPS																	▲									
TIS-B MASPS											▲															
FAA Aircraft Certification																										
TSO-CXXX (ASSAP/CDTI)																				⊢————						≫
**TSO-C166X/C154X																	⊢————								▲	
**AC 20-XXX (Installation)																	⊢————								▲	
AC 120-86 ASA															⊢————						▲					

** If necessary

Discussion

Next Steps

- **Plenary approval on the development of standards and revisions proposed herein**
- **Standards development planning**
  - Document planning assumptions/decisions
  - Describe/document scope
  - Identify resource requirements
  - Establish schedule baselines
  - Establish Working Group tasking & leadership
  - Identify risks & mitigation strategies
- **Communicate resource requirements to FAA program office**
- **Execute**